

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

TIERRA INTELECTUAL BORINQUEN, INC. Plaintiff Vs. HTC CORPORATION et al Defendants	CASE NO. 2:13-cv-39-JRG
TIERRA INTELECTUAL BORINQUEN, INC. Plaintiff, v. TOSHIBA CORPORATION, et. al., Defendants	CASE NO. 2:13-cv-47-JRG

PLAINTIFF TIERRA INTELECTUAL BORINQUEN, INC.'S
OPENING CLAIM CONSTRUCTION BRIEF

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Plaintiff Tierra Intelectual Borinquen, Inc. (“TIB” or “Plaintiff”) moves this Court for an order construing certain claim terms from the asserted claims of U.S. Patent 7,350,078 (’078 Patent), U.S. Patent 7,725,725 (’725 Patent) and U.S. Patent 8,429,415 (’415 Patent) (collectively, the “Asserted Patents”).

I. BACKGROUND AND NATURE OF THE CASE

The subject matter of the Asserted Patents is directed towards computer login security. The ’725 Patent is a continuation of the ’078 Patent, and the ’415 Patent is in turn, a continuation of the ’078 Patent and ’725 Patent. As such, all three share the same specification.

The asserted claims have two general components: a method that is performed on a computer (’078 Patent and ’725 Patent), and a computing device (’415 Patent). As to the method claims, the asserted claims comprise of three important functions. The first allows the user to create a password (signature) using one or more selectable user input devices such as a mouse, a biometric device such as a fingerprint reader and/or a keyboard, *see*, ’725 Patent at Claim 1-2, ’078 Patent at Claims 1-2. The second accepts that the user may make a slight deviation from the signature (for example, if the signature is swiping your finger in a zigzag manner, you may not always pass through the same exact points on the device) by accounting for a “predetermined degree of inexactness” or a “designated tolerance of inexactness,” *see*, ’078 Patent at Claims 5 and 13; ’725 Patent at Claim 4. And, the third allows for the signature to be authenticated either actively or passively, *see* ’078 Patent at Claims 3 and 4; ’725 Patent at Claims 3-4 and 12.

Passive authentication refers to authenticating a user without requiring the user to perform an overt action to submit the signature for authentication, such as pressing the ENTER key. *See*, ’078 Patent at Claims 4-5 and 13; ’725 Patent at Claims 10-12. For example, when

using a smartphone with a 4-digit lock code, the smartphone would unlock as soon as the user correctly touches the fourth digit without any additional input.

Active authentication refers to when the user performs an active step after entering the last portion of the signature. An example of active authentication is when the user hits a “submit” button on the screen after entering his combination of keystrokes and mouse movements. *See*, ’078 Patent 5:20-25.

As to the computing device, the ’415 Patent discloses a computing device (such as a smartphone, a tablet or a personal computer) in which the program memory is stored with a set of instructions that will allow a user to execute steps similar to those claimed in the ’078 Patent and ’725 Patent. Namely, the computing device will allow the user to select a signal type among at least two different user selectable signals to store as a transmission, which in turn is used to create the signature. In other words, the user will be able to record a set of keystrokes, biometrical information and/or mouse movements as their password. The device will then authenticate the signature by either active termination or passive termination. The computing device will also allow for a designated tolerance of inexactness.

In sum, the embodiments disclosed in the Asserted Patents are directed towards computer-implemented methods and computing devices, be it the classical personal computer or modern embodiments such as smartphone or tablet, that allows an user to store a password (signature) composed of one or more inputs (keystrokes, mouse speed or direction, etc.) which is then authenticated.

II. APPLICABLE LEGAL PRINCIPLE

While the Court is clearly familiar with the law as it relates to claim construction, TIB highlights for the Court the overriding legal principles that are relevant to claim construction in this matter. In *Vitronics Corp. v. Conceptronic, Inc.*, the Federal Circuit Court stated that "[i]t is well settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e. the patent itself, including the claims, the specification, and, if in evidence, the prosecution history." 90 F.3d 1576, 1582 (Fed. Cir. 1996). Further, the Federal Circuit has held that reading limitations from the specific embodiments described in the specification is prohibited when making claim construction. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1319-20 (Fed. Cir. 2005) ("[O]ne of the cardinal sins of patent law [is] reading a limitation from the written description into the claims.") (citations and quotations omitted). Accordingly, the claims should not be construed to exclude a preferred embodiment. *See Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1377 (Fed. Cir. 2005) ("[A] construction that would not read on the preferred embodiment would rarely if ever be correct and would require highly persuasive evidentiary support.") (internal quotations and alterations omitted). When faced with the task of determine the best source for understanding a technical term, the Federal Circuit has directed courts to refer to the specification from which it arose. *Phillips*, 415 F.3d at 1315. Although intrinsic evidence is the best evidence of the meaning of claim terms, if the Court does choose to rely on extrinsic evidence, the Court must be sure to consider the flaws inherent in such evidence while weighing its effect on the intrinsic evidence. *Phillips*, 415 F.3d at 1318-19 (describing the flaws of relying on extrinsic evidence); *see also Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003) ("Extrinsic evidence may never be relied upon, however, to vary or contradict the clear meaning of terms in the claims."). Importantly, the person of ordinary skill in

the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification. *Phillips*, 415 F.3d at 1313.

Further, a patentee is allowed to be his own lexicographer so long as the intent to define is set out in the written description. *See, Laryngeal Mask Co. v. Ambu, A/S*, 618 F.3d 1367, 1371 (Fed. Cir. 2010) (“A patentee may act as its own lexicographer and assign to a term a unique definition that is different from its ordinary and customary meaning; however a patentee must clearly express that intent in the written description.”)

With respect to claim indefiniteness, the relevant part of the statute is 35 U.S.C. § 112, 2d ¶, which requires that the claims shall particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention. A decision on whether a claim is invalid under § 112, 2d ¶, requires a determination of whether those skilled in the art would understand what is claimed when the claim is read in light of the specification. *See, Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986), cited approvingly in *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1380 (Fed. Cir. 2011) and *Crane Co. v. Sandenvendo Am., Inc.*, 2:07-CV-42-CE, 2009 WL 1586704 (E.D. Tex. June 5, 2009).

No party may attempt to further non-infringement and invalidity defenses through their proposed constructions by adding extraneous limitations to otherwise easily understood terms, excluding disclosed embodiments, and violating other basic principles of claim construction. *See, Hoganas AB v. Dresser Industries, Inc.*, 9 F.3d 948, 950 (Fed.Cir.1993), recently cited in *Lodsys, LLC v. Brother Int'l Corp.*, 2:11-CV-00090-JRG, 2013 WL 2949959 (E.D. Tex. June 14, 2013).

These constructions are an invitation to error under the aforementioned standard canons of claim construction.

III. AGREED CLAIM TERMS

The parties have agreed on the following constructions for these terms:

	Terms to be Construed	Claims	Agreed Construction
1.	“signature”	’078: 1, 4, 5, 8, 9, 13, 14 ’725: 1, 4, 9, 10, 11, 14-17, 19 ’415: 1, 5, 11, 12	“At least one transmission intended as a security precaution to preclude unauthorized access.”
2.	“input device”	’078: 1, 3, 9 ’725: 1, 10, 15, 19 ’415: 1, 8, 13	“A device by which a user inputs signals into a computer system”
3.	“passively terminating”	’078: 4 ’725: 12	“Stopping without overt user action when a predetermined condition is met”

IV. DISPUTED CLAIM TERMS¹

Although the parties met and conferred to try to agree on the proper construction of the terms of the Asserted Patents, 6 terms currently remain in dispute. TIB respectfully submits that some of the terms require no construction and, for the terms that do require construction, its proposed constructions should be adopted because they are based on the full scope of the intrinsic evidence.

A. “signal” / “signals”²

<u>TIB’S CONSTRUCTION</u>	<u>DEFENDANTS’ CONSTRUCTION</u>
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¹ All citations to the specification of the ’078 Patent also refer to the corresponding sections of the ’725 and ’415 Patents, unless noted otherwise.

² The term “signal” appears in the following asserted claims: ’078 Patent, claims: 1, 2, 4; and ’725 Patent, claims 1, 2, 9, 10, 11, 15, 16, 17, 19.

<u>TIB'S CONSTRUCTION</u>	<u>DEFENDANTS' CONSTRUCTION</u>
"A set of [related software recognizable data] which results from user input onto the computer via an [input device]"	<p><u>HTC:</u> Plain and ordinary meaning</p> <p><u>Toshiba:</u> "Set of [related software-recognizable data] of measureable variable input of the same type from a single transmission"</p>

With respect to the term "signal," the plain language of the specification make it clear that a signal is "a set of related software-recognizable data from a single transmission." *See*, '078 Patent 3:29-30. ("A signal is a set of related software-recognizable data from a single transmission.") Because the specification clearly supports TIB's proposed construction of "signal," which is different from the plain and ordinary meaning, Defendant HTC's proposal is incorrect. Toshiba's proposed construction is also incorrect because it fails to explain the limitation "from a single transmission." As described in the specification, a signal: (1) is a set of related software-recognizable data; and (2) results from user input into the computer via one or more input devices. *See*, '078 Patent 3:29-30; 3:16-19. Because TIB's proposed construction is the only construction that takes into account the full scope of the intrinsic evidence without importing unsupported limitations, the Court should accept TIB's proposed construction.

B. "measurable variable input"³

<u>TIB'S CONSTRUCTION</u>	<u>DEFENDANTS' CONSTRUCTION</u>
"A quantity, property, or condition that is measurable from an [input device]"	<p><u>HTC:</u> Plain and ordinary meaning</p>

³ The term "measurable variable input" appears in the following asserted claims: '078 Patent, claims: 1, 9; and '725 Patent, claims: 1, 10, 15.

<u>TIB'S CONSTRUCTION</u>	<u>DEFENDANTS' CONSTRUCTION</u>
	<p><u>Toshiba:</u> “A continuous input that varies over time and can be measured.”</p>

Transmissions to a computing device via one or more input devices result in a signal. *See*, '078 Patent 3:16-19. Signals resulting in this fashion, however, may comprise any kind of signal that is “measurable” from the input device. The specification discloses various examples of “measurable” signals. In a keyboard, for example, typing a word may yield signals for the entered keys and the timing between keystrokes. *See*, '078 Patent 3:32-33. In that case, the keys and timing between keystrokes are both “measurable” because they can be measured and converted into signals. The keys and timing between keystrokes are also “variable” because different characters may be used, and the timing of the keystrokes may not be consistent.

The specification also offers examples where a mouse is the input device. In that case, mouse movements of the cursor may result in signals for locations, velocities, duration, and shapes. *See*, '078 Patent 3:34-37. For example, the timing of the keystrokes is a quantity, velocity is a quantity, shape is a property, and clicking and dragging a window may be understood as a condition. Taking into account the myriad of input devices that may be used, it follows that any quantity, property, or condition that an input device is able to measure or that may be derived from the signal received from the input device is a “measurable variable input.” As shown, TIB’s proposed construction for the term “measurable variable input” can be easily constructed from intrinsic evidence alone.

In contrast, Defendant Toshiba proposes a technical construction for the term and in support of its construction offers excessive extrinsic evidence that seems to be geared towards establishing non-infringement or invalidity arguments. Defendants offer sixteen (16) pieces of extrinsic evidence to support their construction. Aside from the dangers of using extrinsic evidence, as discussed in *Phillips*, 415 F.3d at 1318-19, the extrinsic evidence offered by Toshiba does not find support in the specification. For example, the specification does not require input to be “continuous” or that input has to change “over time,” as Toshiba proposes. Moreover, the only extrinsic evidence that supports the “continuous” and “over time” requirements are the definitions for “analog computer” and “analog device,” but the specification does not mention analog computers nor devices, much less limits measurable variable input to analog devices. In other words, faced with a clear construction based on the specifications, Toshiba would move the Court to adopt a technical construction that obviates the specifications in favor of extrinsic evidence.

In sum, the term “measurable variable input” refers to: 1) input from an input device; 2) that may be categorized as a quantity, property or condition; and 3) is capable of being measured and converted into a signal. For these reasons, the Court should accept TIB’s proposed construction which takes into account the full scope of the intrinsic evidence without the need to rely on any extrinsic evidence.

C. “signal type”⁴

<u>TIB’S CONSTRUCTION</u>	<u>DEFENDANTS’ CONSTRUCTION</u>
“A category of [measurable variable input]”	<u>HTC (’415 patent only):</u>

⁴ The term “signal type” appears in the following asserted claims: ’078 Patent, claims: 1, 3, 9, 12, 15; ’725 Patent, claims: 1, 7, 10, 11, 15, 16, 17; and ’415 Patent, claims: 1, 12, 13, 14.

<u>TIB'S CONSTRUCTION</u>	<u>DEFENDANTS' CONSTRUCTION</u>
associated with at least one user-selectable [input device]"	<p>"A set of software-recognizable data of the same category of measurable variable input associated with at least one user-selectable input device."</p> <p><u>Toshiba (all patents):</u></p> <p>"A type of [measurable variable input] associated with at least one user-selectable [input device]"</p>

The plain language of the claims of the Asserted Patents all support TIB's proposed construction of "signal type." The claims of the '078 Patent refer to the term "signal type" as "compris[ing] a category, among a plurality of possible categories, of measurable variable input associated with at least one user-selectable input device." *See*, '078 Patent, claims 1, 9, 20 and 22. The claims of the '725 Patent refer to the term "signal type" as "compris[ing] a category of measurable variable input associated with at least one user-selectable input device." *See*, '725 Patent, claims 1 and 10. The claims of the '415 Patent refer to the term "signal type" as "compris[ing] a category of measurable variable input" associated with or arising from various "user-selectable input devices." *See*, '415 Patent, claims 13, 14 and 15.

The specification of the Asserted Patents teaches that "[a] plurality of signals may emanate from a single transmission." *See*, '078 Patent 3:30-32. The specification further teaches that signal data may be categorized by its transmission type and/or signal type. *See*, '078 Patent 3:44-45. Also, Figure 10 shows the relationship between categories and signals from which it may be concluded that "categories" is a descriptive term is interchangeable with "type." For example, Figure 10 shows a submission screen where "signal" and "signal types" are characterized. According to the specification, the "signal types," such as location, speed, vector,

and shape, are related to input from a mouse where a user is able to select the “categories” of “signals” that should be employed for authentication purposes. *See*, ’078 Patent 4:63-5:3. It is apparent from Figure 10 that “signal type” refers to the possible categories of “measurable variable input” associated to particular input devices.

Defendant Toshiba’s construction is almost the same as TIB’s. Instead of using the word “category,” Toshiba uses the word “type.” To the extent that this Court believes that “category” and “type” are synonymous, which is TIB’s position, TIB does not oppose Toshiba’s proposed construction.

Defendant HTC’s proposed construction seemingly construes “signal” despite HTC’s earlier position that the Court adopt the plain and ordinary meaning for the term. Moreover, HTC’s implicit proposed construction of “signal” varies from the proposed constructions of TIB and Toshiba, as well as the specification, *see* ’078 Patent 3:29-30. Furthermore, HTC seeks to construe “signal type” only for the ’415 Patent despite the term appearing in all three of the Asserted Patents. For these inconsistencies, HTC’s proposed construction should be rejected.

For these reasons, the Court should adopt TIB’s proposed construction that the term “signal type” comprises a category, among a plurality of categories, of measurable variable input associated with at least one user-selectable input device.

D. “predetermined degree of inexactness” / “designated tolerance of inexactness”⁵

<u>TIB’S CONSTRUCTION</u>	<u>DEFENDANTS’ CONSTRUCTION</u>
“Measure of deviation from the recorded signal”	“A preset allowable measure of deviation from correctness”

⁵ The term “predetermined degree of inexactness” and “designated tolerance of inexactness” appears in the following asserted claims: ’078 Patent, claims: 5; and ’725 Patent, claims: 4, 14.

Certain types of signals are inexact because of their very nature. As discussed with respect to the terms “measurable variable input” and “signal type” the specification discloses the use of shapes, vectors, and locations, among others, for authentication purposes. Contrary to passwords and passphrases, which generally do not allow any type of deviation, a mouse-drawn shape, for example, will tend to introduce a small, albeit cognizable, difference when compared with the recorded signature. Thus, allowing no deviation would render a mouse-drawn shape useless for authentication purposes. Allowing an excessive amount of difference between the mouse-drawn shape and the recorded signature would equally render a mouse-drawn shape useless for authentication purposes. Therefore, to practice the claimed inventions, it is indispensable to set a balance between security and ease-of-use of the authentication mechanism.

The specification of the Asserted Patents teaches that signal tolerance should be allowed when appropriate and may be set by software-determined protocol or user selection. It follows that the signal tolerance must be set before the time of authentication. Thus, the “inexactness” associated with a particular authentication mechanism is necessarily preset. As mentioned above, the amount of tolerated difference for a particular signal is not arbitrarily determined at the time of authentication. Rather, it is determined with respect to the recorded signal. That is, a measure of deviation from the recorded signal is allowed when using, for the purposes of authentication, input devices that introduce cognizable differences between the signature and said signal. Thus, contrary to Defendants’ proposed construction, the “predetermined degree of inexactness” and “the designated tolerance of inexactness” do not refer to “correctness” in a vacuum. Moreover, the specification does not disclose a standard of “correctness.”

Because Defendants’ construction introduces the term “correctness,” which is not found in the specification of the Asserted Patents, their proposed construction confuses, rather than

explains, the present terms. Using the intrinsic evidence, one can only guess what “correctness” means. Accordingly, Defendants’ proposed construction is not useful to clarify the subject matter of the Asserted Patents.

As shown, TIB’s constructions for “predetermined degree of inexactness” and “designated tolerance of inexactness” appreciate that a measure of deviation from the recorded signal should be allowed when using input devices that introduce cognizable differences between the signature and said signal during authentication and that this measure of deviation must necessarily be set before the time of authentication. Accordingly, the Court should adopt TIB’s proposed constructions.

E. “related software-recognizable data”⁶

<u>TIB’S CONSTRUCTION</u>	<u>DEFENDANTS’ CONSTRUCTION</u>
“A collection of data that is recognizable by software and related by serving a common purpose”	“Related data that can be identified by software”

The specification of the Asserted Patents teaches that the types of signals are not necessarily known beforehand. In some cases, the embodiments of the Asserted Patents recognize the type of signal received by identifying discrete patterns in the data structure. These discrete patterns are referred to in the disclosure as type identifiers, data length, or other data signatures. *See*, ’078 Patent 2:57-63 (“In the following description, protocols, algorithm types, data types, and types of data, such as transmission, signal, packaging, sequencing, or encryption types or protocols, are identifiable using binary identification codes (type identifiers), by data

⁶ The term “related software-recognizable data” appears in the following asserted claims ’078 Patent, claim: 1; and ’725 Patent, claims: 1, 10, 15.

length, or other data signature, such as a uniquely identifiable bit pattern, or by convention, such as known location (offset) within a data structure.”).

Data that comprises one distinct signal must be related in some way. To clarify this concept, it is imperative to return to the discussion of the terms “signal” and “signal type.” As discussed with respect to the term “signal,” data that comprises each signal is related software-recognizable data. TIB also discussed, with respect to the term “measurable variable input,” that a plurality of signals may emanate from a single transmission. By looking at Figure 10 of the Asserted Patents, it is clear that input from a mouse could yield signals for location, speed, vector, and shape, to name a few. To reiterate, a signal is “a set of [related software-recognizable data] which results from user input onto the computer via an [input device].” Thus, each of the signals that arise from mouse input, for example, is related software-recognizable data.

Revisiting the example of authentication using a mouse, if each of the signals that arise from mouse input is related software recognizable data then this leads to the conclusion that the collection of data that comprises a mouse-drawn shape is unrelated to the collection of data that comprises a mouse-drawn vector, even though both signals arise from the same input device in a single transmission. Therefore, the collection of data that comprises a mouse-drawn shape serves the common purpose of authenticating the user via the mouse-drawn shape in accordance with the disclosure of the Asserted Patents. In similar fashion, the collection of data that comprises a mouse-drawn vector serves the common purpose of authenticating the user via the mouse-drawn vector.

In sum, the term “related software-recognizable data”: 1) means that the collection of data that comprises a signal is related by serving the common purpose of authenticating a user via the

selected method of authentication (i.e., key stroke timing, shape, vector); and 2) that the collection of data that comprises a signal can be recognized by looking for discrete patterns within the data structure. *See*, '078 Patent 2:57-63. For these reasons, the Court should adopt TIB's proposed construction.

F. "same type"⁷

<u>TIB'S CONSTRUCTION</u>	<u>DEFENDANTS' CONSTRUCTION</u>
Plain and ordinary meaning ⁸	<p><u>HTC:</u> "Same category of measurable variable input"</p> <p><u>Toshiba:</u> "same signal type"</p>

As discussed with respect to the terms "signal type" and "related software recognizable data," a plurality of signals may emanate from a single transmission. In those cases it was established that the collection of data that comprises a mouse-drawn shape, for example, is unrelated to the collection of data that comprises a mouse-drawn vector, even though both signals arise from the same input device in a single transmission. Therefore, the collection of data that comprises a mouse-drawn shape serves the common purpose of authenticating the user via a mouse-drawn shape in accordance with the present invention. Figure 10, shown above, characterizes each distinct signal type as a signal. Therefore, it must be concluded that each of

⁷ The term "same type" appears in the following asserted claims: '078 Patent, claims: 1, 4; '725 Patent, claims: 1, 10, 15.

⁸ Defendants, under TIB's objection, unilaterally decided to add this term just a few hours before the deadline for filing the Joint Claim Construction Statement under P.R. 4.3. Defendants did this in violation of the procedure set forth in the Patent Local Rules for proposing the terms to be construed and with knowledge that such a move would likely result in irreparable harm to TIB. As such, TIB was not afforded an opportunity to properly analyze the implications of such an addition. Therefore, TIB respectfully requests that this term be removed from consideration.

those signals must necessarily be of the “same type”. However, this conclusion does not warrant a claim construction since a person having ordinary skill in the art, reading the specification and the claims as a whole, would be able to identify the extent of the relationship between signals and signal types. In conclusion, the present term must be afforded its plain and ordinary meaning.

V. CONCLUSION

For the reasons provided herein, the Court should adopt TIB’s constructions because they are supported by the intrinsic evidence and reject Defendants’ constructions because they are intended to further non-infringement and invalidity defenses by adding extraneous limitations, excluding disclosed embodiments, and violating other basic principles of claim construction.

Dated: March 25, 2014

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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was filed electronically in compliance with Local Rule CV-5(a). As such, this response was served on all counsel who are deemed to have consented to electronic service. Local Rule CV-5(a)(3)(V). Pursuant to Fed. R. Civ. P. 5(d) and Local Rule CV-5(d) and (e), all other counsel of record not deemed to have consented to electronic service were served with a true and correct copy of the foregoing by email, on this the 30th of December, 2013.

By: /s/ Eugenio J. Torres-Oyola
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